Improving Quality and Addressing the Rising Costs of Cancer Care: Two Birds, One Stone

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Many health care analysts and oncology professionals have begun to question the long-term viability of medical oncology given the rising costs associated with cancer care.[1,2] Cancer care, based on per-person costs, has been described as the most expensive area of health care,[3] constituting approximately 5% of total health care spending.[4] Thus, while the costs associated with cancer can be, and often are, quite high, the benefit of that spending is limited to only a fraction of the population.

We recently published a proposal[5] that could provide a framework for a Medicare pilot program in an attempt to improve the quality of cancer care while addressing the major cost drivers in the practice of medical oncology. We described a rational way to link clinical practice to evidence-based guidelines and at the same time realign practitioner incentives such that spending on drugs could be lowered incrementally by using a market-based approach. Further, we proposed that our approach could be executed through Medicare in a manner that would not radically alter physician practice economics and would allow for adequate monitoring of best practices and outcomes.

Before discussion of the specifics of our proposal, it is important to note that the practice of medical oncology has two important characteristics that are central to the development of our model. These include published standards of care for the treatment of the most common cancers, by multiple professional societies, as well as readily defined treatment periods that could serve as the "episodes" of care. Given this, it is possible to generate a list of treatment options that could be considered to be appropriate for the vast majority of patients with a specific diagnosis, as well as allow for a way to break down ongoing therapy into manageable blocks from a reimbursement standpoint.

With these factors in mind, we have proposed an episode-based reimbursement approach in which Medicare would deliver a set reimbursement to providers (or provider networks) to pay for a period of care (eg, 1 month or 3 months) for a particular patient with a defined condition (such as metastatic lung or colon cancer).

As an example of our model, consider the case of non–small-cell lung cancer (NSCLC). There are currently eight combinations of chemotherapeutics that are recommended as first-line treatment for this disease, according to the National Comprehensive Cancer Network (NCCN) and a number of other practice guidelines. The costs of these regimens (with administrative and supportive care fees) to Medicare vary quite substantially, however, from approximately $1,292 to $7,092 per month. If these regimens are largely interchangeable and of similar efficacy, an episode-based payment framework could result in savings without harming quality.

For instance, imagine if the rate of reimbursement for a 1-month episode of treatment of NSCLC were set at $4,000 per month, and that payment was intended to support the costs of the chemotherapy, supportive care, and drug administration. This would create an incentive for oncologists to choose lower priced regimens. In such an example, an individual physician selecting carboplatin-pemetrexed for the treatment of NSCLC would lose $3,092 per month per patient. This same physician would earn an additional $2,678 per month when choosing carboplatin-paclitaxel. The choice of other potential regimens would expose an individual oncologist to smaller gains or losses. Such an incentive structure is not present within the current fee-for-service system, in which doctors are essentially reimbursed for their costs (although as a practical matter some regimens can result in small losses or profits).

In addition to the potential for up-front savings via physicians' transitioning to lower cost regimens, episode-based payment could also have the effect of generating market pressure on pharmaceutical producers to lower their prices. This would be the case only if the approach were widely adopted. If it were, manufacturers could start to lose market share if their drugs cost more than what the episode-based payment supports. The notion that manufacturers might lower prices to gain market share in oncology may seem counterintuitive. Most of what is seen today is higher and higher prices. But in fact there are examples of manufacturers responding in this manner. When the drug pemetrexed was approved in the United Kingdom, the manufacturer set the price at half the cost of that in the United States.[6] Although not explicitly stated, this was likely so that the drug could meet the cost effectiveness standards required for approval in that country.

Before initiation of an episode-based payment pilot program, participating care providers and Medicare (with the help of other interested parties such as professional societies) would have to agree on treatment guidelines that would be followed for the cancer types that are included in the pilot. This would have the effect of creating sets of treatment approaches that could all be considered equally acceptable from a therapeutic standpoint. We do not anticipate large difficulties in establishing acceptable treatment approaches, given the apparent consensus in the United States and many other countries regarding the treatment of many tumor types. In this context, the pilot

need not, and should not, cover all types of cancer, nor should it be expected to cover all aspects of care.

After this initial step establishing acceptable regimens, reimbursement data would be collected prospectively to determine what the range and average costs are for standard-of-care treatment. Physicians would submit two sets of information: standard fee-for-service claims and a second set of data. This second data set would define the episode of care (ie, metastatic non–small-cell lung cancer, first-line therapy, month 1). Thus, data documenting the cost of the individual services performed within each clinical episode could be captured.

After these data are analyzed, Medicare would use the findings to set reimbursement for an individual episode of care at around the average cost of treatment. Once providers start receiving this average cost payment for the episode rather than fee-for-service, providers would seek to improve efficiency by choosing lower price regimens when appropriate. This would have the overall effect of bringing the average cost of care down further. As individual providers migrated to regimens that provided optimal reimbursement in the new paradigm, pharmaceutical producers would have an incentive to decrease prices in hopes of maintaining or improving market share. This system could be further tweaked to include a periodic re-evaluation of the average cost of standard of care therapy. As costs decrease over time, the reimbursement from Medicare could be accordingly reduced to continue the drive toward more efficient and less costly care.

This model also has the benefit of standardizing and potentially improving the quality of care across the country. Several professional societies (NCCN, ASCO, and the American College of Chest Physicians, among many others) have developed practice guidelines in hopes of standardizing treatment for clinical situations in which high-quality evidence exists. Most practicing oncologists acknowledge being aware of these standards, with recent data generated by the Association of Community Cancer Centers reporting that 80% to 96% of practicing oncologists endorse following the guidelines most of the time.[7,8] Of course, some barriers continue to exist to the widespread adoption of clinical practice guidelines.[9,10]

Even so, concern regarding variability in evidence-based care is clearly manifest within the oncology community, with notable examples including the development of the Quality Oncology Practice Initiative[11] by ASCO and explicitly in the naming of the annual NCCN meeting: "Clinical Practice Guidelines & Quality Cancer Care." Our proposal similarly utilizes guidelines but would seek to establish a direct link between high-quality care and reimbursement. In order to receive an episode-based reimbursement within our model, oncologists would have to certify that they are following standard practice guidelines or explain why these do not apply to their patient.

Several issues will require close attention should our model be eventually tested in a Medicare pilot. The treatment approaches that would qualify for inclusion would have to be well specified and widely acknowledged to be appropriate. Although multiple professional societies already publish such guidelines, we would recommend that a new independent panel be convened to develop and further specify, going forward, which treatment approaches would be considered appropriate during an episode of care. This panel would consist of physician experts, regulatory personnel, and other interested parties Participating oncology practices would then agree to the guidelines as specified, perhaps through a process of comment, revision, and approval.

In addition, it would be important to focus the pilot on cancer types in which there is already wide agreement regarding appropriate treatment, and to have an easily accessible appeals process available for participating physicians. This would promote an environment of quality improvement as opposed to mere cost cutting. Also, we would recommend that initially, at least, risk corridors be placed alongside the bundled reimbursement such that neither profit nor loss from the model exceed a predetermined amount. This could then alleviate the motivation for cost-shifting, up-coding, or cream-skimming that might be anticipated in an episode-based payment system.

Finally, the potential impact of our approach on innovation and new drug development should be considered. We do not believe that our model would affect the development of new drugs that are more efficacious than existing treatments. Instead, it will remove incentives for setting prices at high levels for drugs that have the same level of clinical efficacy as existing standard. Under our model, should a new drug or treatment be developed that shows improved efficacy compared with current therapies, it would by definition not fit within the structure of our model and as such could be priced at whatever the market will bear.

Other strategies have recently been promoted to reduce the costs of medical oncology. Multiple reports have discussed linking reimbursement to comparative effectiveness research.[12,13] These approaches stress interval re-evaluation of reimbursement on the basis of the most up-to-date clinical data available. Another recent report describes a potential link between improvements in the quality of care through the public reporting of meaningful quality measures. This approach emphasizes a re-examination of the role of quality metrics in cancer care, a redesigning of health information technology to better capture quality data, and an adjustment of all captured data for disease stage or severity of illness.[14]

Although we agree with these approaches in principle, and welcome the development of the data that would be necessary to actualize them, we are of the belief that changing the incentives of individual practitioners will lead to a more rapid improvement in quality and reduction in the overall cost of cancer care. Finally, it is of interest that the UnitedHealthcare system recently instituted a novel reimbursement scheme in medical oncology that could be considered episode-based.[15] This system removes the usual profit associated with chemotherapy administration, limiting physicians to chemotherapy costs plus a fee for standard care that includes a level of profit.

Improvement in the quality of advanced cancer care has become an essential tenet in the activities of the major oncology professional societies. In addition, it is clear from both the nonmedical lay press and the scientific community that the current trajectory of medical oncology spending is unsustainable. We have proposed a paradigm change from the standard fee-for-service payment system, and "buy and bill" payment for oncology drugs that would link the systemic improvement in quality of care to reimbursement and at the same time derive significant

savings in the treatment of several advanced cancers. Our model has the additional benefit of potentially driving down oncology drug prices over the long term by using a market-based approach. We have currently limited our model to only those costs associated with the purchasing and delivery of chemotherapy; however, the concept is more widely applicable. Should success be seen within an initial Medicare pilot, the possibility exists for the development of more encompassing episodes, which may over time bring down the costs of cancer care and eventually generate more substantial savings throughout the cancer care delivery system.

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